is carbonized and activated. Dependent claims 4-8, 12-14, 16, 26, 27, 29, 31, 35, 37, and 41-45 have been amended to be consistent with said amended independent claims.

Harris' end product does not contain a carbonized and activated lignosulfonate coating. *Harris* merely uses its lignosulfonate to temporarily form glass-particle agglomerates as the glass particles are sintered together, forming sintered-glass pellets (*See* col. 4, lines 22-25; and col. 5, lines 58-65). Because *Harris* teaches the sintering process in an air atmosphere (indicated by use of a natural gas rotary kiln in Fig. 2), the lignosulfonate used initially in the sintering process will be essentially burned off. Even if any carbon is present in *Harris'* end product, it would not be activated (i.e., rendered more porous (*See* Applicants' page 6, lines 6-7)), as is recited by Applicants' claim 1, because *Harris* only discloses a one step heating process which would not create porosity in carbon. That is, *Harris* never discloses an atmosphere or additional treatment (e.g., steam) necessary for yielding an activated lignosulfonate coating.

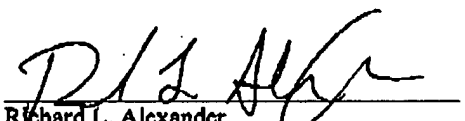
For these reasons, *Harris* does not disclose or anticipate any addition of carbon, and certainly does not disclose or anticipate activation of carbon. Thus, claim 1, and those claims dependent therefrom, are not anticipated by *Harris*.

II. Rejection Under 35 U.S.C. § 103(a)

Pending claims 3-45 are rejected under § 103(a) in the above-mentioned Office Action. The Office Action states that claims 3-45 are unpatentable over *Harris* because *Harris* "discloses the claimed invention with the exception of..." several elements claimed by Applicants in claims 3-45. However, as explained above, *Harris* does not disclose filter particles coated with a carbonized and activated lignosulfonate coating as recited by Applicants' claim 1. For this reason, *Harris* does not anticipate or make obvious Applicants' claim 1. Further, as noted in the Office Action, *Harris* does not teach the additional elements claimed by Applicants in claims 3-45. Thus, Applicants' claims 3-45 are also not obvious in light of *Harris*.

In light of the above remarks, Applicants respectfully request that Examiner reconsider and withdraw the rejections under 35 U.S.C. §§ 102 and 103. Early and favorable action in the case is respectfully requested.

Respectfully submitted,
Michael Donovan Mitchell, et al.



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VERSION WITH MARKINGS TO SHOW CHANGES MADE

Claims 1, 4-9, 12-14, 16, 17, 26, 27, 29, 31, 32, 35, 37, 38, 41-45 have been amended as follows:

1. (Amended) A filter for removing microorganisms from a fluid, comprising:
   b) a housing having an inlet and an outlet; and
   b) a filter material disposed within said housing, said filter material formed at least in part from a plurality of filter particles [having an] comprising a carbonized and activated lignosulfonate coating[, wherein said coating comprises a lignosulfonate].

4. (Amended) The filter of claim 1, wherein the carbon add-on in said carbonized and activated lignosulfonate coating is between about 0.1% and about 85%.

5. (Amended) The filter of claim 1, wherein the carbon add-on in said carbonized and activated lignosulfonate coating is between about 0.5% and about 45%.

6. (Amended) The filter of claim 1, wherein the BET surface area of one or more of said carbonized and activated lignosulfonate coated filter particles is between about 500 m^2/g and about 3000 m^2/g.

7. (Amended) The filter of claim 1, wherein the sum of the mesopore and macropore volumes of one or more of said carbonized and activated lignosulfonate coated filter particles is between about 0.2 mL/g and about 2.2 mL/g.

8. (Amended) The filter of claim 1, wherein the ratio of the sum of the mesopore and macropore volumes to the micropore volume of one or more of said carbonized and activated lignosulfonate coated filter particles is between about 0.3 and about 3.

9. (Amended) A filter for removing microorganisms from a fluid, comprising:
   a) a housing having an inlet and an outlet; and
   b) a filter material disposed within said housing, said filter material formed at least in part from a plurality of filter particles [having an] comprising a carbonized and activated lignosulfonate coating [comprising a lignosulfonate], wherein the [BET surface area of one or more of said filter particles is between about 500 m^2/g and about 3000 m^2/g] sum of mesopore and macropore volumes of one or more of said carbonized and activated lignosulfonate coated filter particles is between about 0.2 mL/g and about 2.2 mL/g.

12. (Amended) The filter of claim 9, wherein the [carbon add-on in said activated coating is less than about 85%] BET surface area of one or more of said carbonized and activated lignosulfonate coated filter particles is between about 500 m^2/g and about 3000 m^2/g.

13. (Amended) The filter of claim 9, wherein the carbon add-on in said carbonized and activated lignosulfonate coating is between about 0.1% and about 85%.

14. (Amended) The filter of claim 9, wherein the carbon add-on in said carbonized and activated lignosulfonate coating is between about 0.5% and about 45%.

16. (Amended) The filter of claim 9, wherein the ratio of the sum of the mesopore and macropore volumes to the micropore volume of one or more of said carbonized and activated lignosulfonate coated filter particles is between about 0.3 and about 3.

17. (Amended) A filter for removing microorganisms from a fluid, comprising:

a) a housing having an inlet and an outlet; and

b) a filter material disposed within said housing, said filter material formed at least in part from a plurality of filter particles [having an] comprising a carbonized and activated lignosulfonate coating[comprising a lignosulfonate], wherein the carbon add-on in said carbonized and activated lignosulfonate coating is less than about 85% and wherein the BRI of said filter particles is greater than 99%, and wherein the sum of mesopore and macropore volumes of one or more of said carbonized and activated lignosulfonate coated filter particles is between about 0.2 mL/g and about 2.2 mL/g.

26. (Amended) The filter of claim 17, wherein the carbon add-on in said carbonized and activated lignosulfonate coating is between about 0.1% and about 85%.

27. (Amended) The filter of claim 17, wherein the carbon add-on in said carbonized and activated lignosulfonate coating is between about 0.5% and about 45%.

29. (Amended) The filter of claim 17, wherein the BET surface area of one or more of said carbonized and activated lignosulfonate coated filter particles is between about 500 m^2/g and about 3000 m^2/g.

31. (Amended) The filter of claim 17, wherein the ratio of the sum of the mesopore and macropore volumes to the micropore volume of one or more of said carbonized and activated lignosulfonate coated filter particles is between about 0.3 and about 3.

32. (Amended) A filter for removing microorganisms from a fluid, comprising:

a) a housing having an inlet and an outlet; and

b) a filter material disposed within said housing, said filter material formed at least in part from a plurality of filter particles [having an] comprising a carbonized and activated lignosulfonate coating[comprising a lignosulfonate], wherein the carbon add-on in said carbonized and activated lignosulfonate coating is less than about 85%, and wherein the BRI of said filter particles is greater than 99.9%, and the VRI of said filter particles is greater than about 95%, and wherein the sum of mesopore and macropore volumes of one or more of said carbonized and activated lignosulfonate coated filter particles is between about 0.2 mL/g and about 2.2 mL/g.

35. (Amended) The filter of claim 32, wherein the BET surface area of one or more of said carbonized and activated lignosulfonate coated filter particles is between about 500 m^2/g and about 3000 m^2/g.

37. (Amended) The filter of claim 32, wherein the ratio of the sum of the mesopore and macropore volumes to the micropore volume of one or more of said carbonized and activated lignosulfonate coated filter particles is between about 0.3 and about 3.

38. (Amended) A filter material for removing microorganisms from a fluid, comprising a filter particle [having an] comprising a carbonized and activated lignosulfonate coating[, wherein said coating comprises a lignosulfonate].

41. (Amended) The filter material of claim 38, wherein the BET surface area of said carbonized and activated lignosulfonate coated filter particle is between about 500 m^2/g and about 3000 m^2/g.

42. (Amended) The filter material of claim 38, wherein the sum of the mesopore and macropore volumes of said carbonized and activated lignosulfonate coated filter particle is between about 0.2 mL/g and about 2.2 mL/g.

43. (Amended) The filter material of claim 38, wherein the ratio of the sum of the mesopore and macropore volumes to the micropore volume of said carbonized and activated lignosulfonate coated filter particle is between about 0.3 and about 3.

44. (Amended) The filter material of claim 38, wherein the carbon add-on in said carbonized and activated lignosulfonate coating is between about 0.1% and about 85%.

45. (Amended) The filter material of claim 38, wherein the carbon add-on in said carbonized and activated lignosulfonate coating is between about 0.5% and about 45%.